

COC REV 3/99

C.OC. # 172 CHAIN OF CUSTODY REPORT

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Seattle 11720 No.: reek Pkwy N, Suite 400, Bothell, WA 98011-8244

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541.383.9310 fax 541.382.7588

7 November, 2001

Steve Johnson Bristol Environmental & Engineering 2000 W. International Airport Rd. #C-1 Anchorage, AK 99502-1116

RE: Amchitka

Enclosed are amended results of analyses for samples received by the laboratory on 07/18/01 09:30. If you have any questions concerning this report, please feel free to contact me. These results supercede all previous results reported by the laboratory.

Sincerely,

Jerry Orlando

Project Manager/QA

Work Orders included in this report:

P1G0583



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Bristol Environmental & Engineering 2000 W. International Airport Rd. #C-1 Anchorage, AK 99502-1116

Project: Amchitka

Project Number: 210901, PO# 21090

Project Manager: Steve Johnson

Amended Report Issued: 11/07/01 12:01

ANALYTICAL REPORT FOR SAMPLES - Amended

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
01AMF1308SL	P1G0583-01	Soil	07/14/01 10:20	07/18/01 09:30

North Creek Analytical - Portland

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jerry Orlando, Project Manager/QA

North Creek Analytical, Inc. **Environmental Laboratory Network**

Page 1 of 7



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Bristol Environmental & Engineering 2000 W. International Airport Rd. #C-1 Anchorage, AK 99502-1116

Project: Amchitka

Project Number: 210901, PO# 21090

Project Manager: Steve Johnson

Amended Report Issued: 11/07/01 12:01

Polynuclear Aromatic Compounds per EPA 8270M-SIM North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
01AMF1308SL (P1G0583-01) Soil					Sampled: 07/1	4/01 Rece	ived: 07/18/	01	
Acenaphthene	ND	670	ug/kg dry	50	EPA 8270m	07/23/01	07/27/01	1071566	R-03
Acenaphthylene	ND	670	11	11	"	11	07727701	10/1300	R-03 R-03
Anthracene	ND	670	tt	11	**	n	n	**	R-03 R-03
Benzo (a) anthracene	ND	13.4	n	1	tt	n	07/27/01	11	K-03
Benzo (a) pyrene	ND	13.4	II	11	11	u	11	11	
Benzo (b) fluoranthene	ND	13.4	11	11	11	u	**	11	
Benzo (ghi) perylene	ND	13.4	11	н	**	11	**	11	
Benzo (k) fluoranthene	ND	13.4	11	**	•	Ħ	Ħ	**	
Chrysene	ND	13.4	#	. ,		11	н	**	
Dibenzo (a,h) anthracene	ND	13.4	11	**	**		Ħ		
Fluoranthene	ND	670	ш	50	tt	**	07/27/01	"	R-03
Fluorene	ND	670	nt ·	"		**	11	tt	R-03
Indeno (1,2,3-cd) pyrene	ND	13.4	11	1	н	tt	07/27/01	п	12-03
Naphthalene	ND	670	11	50	H	u.	07/27/01	11	R-03
Phenanthrene	ND	670	11	11	n	**	11	11	R-03
Pyrene	56.5	13.4	**	1	11	. "	07/27/01	11	K-03
Surr: Fluorene-d10	NR	40-150					<u></u>		S-01
Surr: Pyrene-d10	132 %	40-150							5-01
Surr: Benzo (a) pyrene-d12	94.3 %	40-150							

North Creek Analytical - Portland

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Bristol Environmental & Engineering 2000 W. International Airport Rd. #C-1 Anchorage, AK 99502-1116

Project: Amchitka

Project Number: 210901, PO# 21090

Project Manager: Steve Johnson

Amended Report Issued: 11/07/01 12:01

Percent Dry Weight (Solids) per Standard Methods North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
01AMF1308SL (P1G0583-01) Soil				Ş	Sampled: 07/1	4/01 Recei	ived: 07/18/	01	NA
% Solids	82.4	1.00 %	by Weight	1	NCA SOP	07/20/01	07/21/01	1071477	

North Creek Analytical - Portland

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Bristol Environmental & Engineering 2000 W. International Airport Rd. #C-1 Anchorage, AK 99502-1116

Batch 1071566 - EPA 3550

Blank (1071566-BLK1)

Phenanthrene

Рутепе

Project: Amchitka

Project Number: 210901, PO# 21090

Project Manager: Steve Johnson

Amended Report Issued: 11/07/01 12:01

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Quality Control

North Creek Analytical - Portland

					JA CAMIACI					
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Blank (1071566-BLK1)				Prepared: 07/23/01 Analyzed: 07/25/01
Acenaphthene	ND	13.4	ug/kg	
Acenaphthylene	ND	13.4	"	•
Anthracene	ND	13.4	(r	
Benzo (a) anthracene	ND	13.4	u	
Benzo (a) pyrene	ND	13.4	n	
Benzo (b) fluoranthene	ND	13.4	11	
Benzo (ghi) perylene	ND	13.4	11	
Benzo (k) fluoranthene	ND	13.4	"	•
Chrysene	ND	13.4	н	
Dibenzo (a,h) anthracene	ND	13.4	Ħ	
Fluoranthene	ND	13.4	11	
Fluorene	ND	13.4	**	
Indeno (1,2,3-cd) pyrene	ND	13.4	Ħ	
Naphthalene	ND	13.4	n	

Pyrene	ND	13.4	н			
Surr: Fluorene-d10	62.5		"	83.3	75.0	40-150
Surr: Pyrene-d10	83.9		"	<i>83.3</i>	101	40-150
Surr: Benzo (a) pyrene-d12	75.5		"	83.3	90.6	40-150
LCS (1071566-BS1)				Prepared: 07/23/01	Analyze	t· 07/25/01

13.4

ND

LCS (10/1500-BS1)				Prepared: 07/23/01	Analyze	d: 07/25/01
Acenaphthene	137	13.4	ug/kg	167	82.0	33-139
Benzo (a) pyrene	156	13.4	11	167	93.4	45-149
Pyrene	148	13.4	11	167	88.6	39-138
Surr: Fluorene-d10	67.1		"	83.3	80.6	40-150
Surr: Pyrene-d10	89.5		"	83.3	107	40-150
Surr: Benzo (a) pyrene-d12	80.3		"	83.3	96.4	40-150

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%REC

Bristol Environmental & Engineering 2000 W. International Airport Rd. #C-1 Anchorage, AK 99502-1116

Analyte

Project: Amchitka

Project Number: 210901, PO# 21090

Project Manager: Steve Johnson

Amended Report Issued: 11/07/01 12:01

RPD

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Quality Control

North Creek Analytical - Portland	North	<u>Creek</u>	Analytica	l - Portland
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Spike

Source

Reporting

Result

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 1071566 - EPA 3550				-						
Matrix Spike (1071566-MS1)	Sour	ce: P1G05	34-01	Prepared:	07/23/01	Analyzed	l: 07/26/01			
Acenaphthene	147	13.4	ug/kg dry	189	ND	72.9	33-139			
Benzo (a) pyrene	165	13.4	"	189	34.1	69.3	45-149			
Pyrene	181	13.4	n	189	91.4	47.4	39-138			
Surr: Fluorene-d10	69.3		"	94.6						
Surr: Pyrene-d10	100		"	94.6		73.3	40-150			
Surr: Benzo (a) pyrene-d12	85.4		,,			106	40-150			
(1.2) Ellis MIR	03.4		"	94.5		90.4	40-150			
Matrix Spike Dup (1071566-MSD1)	Sour	ce: P1G05	34-01	Prepared:	07/23/01	Analyzed	: 07/26/01			
Acenaphthene	151	13.4	ug/kg dry	189	ND	75.0	22 120	2 60		

(1) P) 1112	03.4			94.3		90.4	40-150			
Matrix Spike Dup (1071566-MSD1)	Sour	ce: P1G05	534-01	Prepared:	07/23/01	Analyze	d: 07/26/01	•		
Acenaphthene	151	13.4	ug/kg dry	189	ND	75.0	33-139	2.68	60	
Benzo (a) pyrene	166	13.4	11	189	34.1	69.8	45-149	0.604	- 60	
Ругепе	179	13.4	u	189	91.4	46.3	39-138	1.11	60	
Surr: Fluorene-d10	76.4		"	94.6		80.8	40-150			
Surr: Pyrene-d10	99.4		"	94.6		105	40-150			
Surr: Benzo (a) pyrene-d12	86.9		"	94.5		92.0	40-150			

North Creek Analytical - Portland

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Jerry Orlando, Project Manager/QA



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Bristol Environmental & Engineering 2000 W. International Airport Rd. #C-1 Anchorage, AK 99502-1116

Project: Amchitka

Project Number: 210901, PO# 21090

Project Manager: Steve Johnson

Amended Report Issued: 11/07/01 12:01

Percent Dry Weight (Solids) per Standard Methods - Quality Control

North	Creek	Analy	tical -	- Portland

		Tortiand								
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1071477 - Dry Weight										
Duplicate (1071477-DUP1)	Sour	Source: P1G0377-13 Prepared: 07/20/01 Analyzed: 07/21/0								
% Solids	72.6	1.00%	by Weigh		73.6			1.37	20	
Duplicate (1071477-DUP2)	Source: P1G0377-11			Prepared:	07/20/01	Analyzed	: 07/21/01			
% Solids	73.5	1.00%	by Weigh		73.5		······································	0.00	20	
Duplicate (1071477-DUP3)	Source: P1G0377-12 Prepared: 07/20/01 Analyze						: 07/21/01			
% Solids	80.2	1.00 %	by Weigh		81.5			1.61	20	
Duplicate (1071477-DUP4)	Soui	Source: P1G0685-01 Prepared: 07/20/01 Analyzed: 07					07/21/01			
% Solids	81.4	1.00 %	by Weigh	ıt	83.5			2.55	20	

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Jerry Orlando, Project Manager/QA



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Bristol Environmental & Engineering 2000 W. International Airport Rd. #C-1 Anchorage, AK 99502-1116

Project: Amchitka

Project Number: 210901, PO# 21090

Project Manager: Steve Johnson

Amended Report Issued: 11/07/01 12:01

Notes and Definitions

R-03 The reporting limit for this analyte was raised due to matrix interference.

The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or S-01

matrix interferences.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

Sample results reported on a dry weight basis. MRLs are adjusted if %Solids are less than 50%. dry

wet Sample results reported on a wet weight basis (as received)

RPD Relative Percent Difference

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Jerry Orlando, Project Manager/QA